S50V Power over Ethernet Switch

48-port GbE fixed configuration 1-RU switch

Up to four 10 GbE uplinks

Scalable stacking technology supports 144 GbE ports in up to three S50s

S-Series S50V High Performance GbE/10 GbE Access Switch

The Force10 S50V brings core-like resiliency in a compact form factor to the network edge, enabling cost-effective scalability. With PoE and low switching latency, the high density Gigabit Ethernet switch delivers the critical functionalities that advanced enterprise network edges demand.

Key Applications

Coupled with the E-Series, which delivers unmatched resiliency and performance, the S50V enables IT managers to deploy a reliable end-to-end 10 GbE solution that spans from core to network edge.

- Line-rate GbE and 10 GbE rack switches for the most demanding data center, storage or compute facility

- PoE-ready for wiring closets that require core resiliency and high availability for VoIP and wireless connectivity

- Small form factor POP Layer 2 interconnects leveraging 10 GbE LAN PHY for cost effective metro or intra-POP transport

Key Features

The S50V is a PoE ready fixed configuration switch that delivers the reliability and scalability that wiring closets demand.

- 48 10/100/1000 ports in a 1-RU form factor
    - 44 ports 10/100/1000 Base-T
    - 4 ports 10/100/1000 Base-T shared with SFP pluggable optics
    - IEEE802.3af compliant POE that provides up to 15.4W per port and 320W per switch

- Optional Modules
    - 2-port 10 GbE LAN PHY (XFP pluggable optics)
    - 2-port 10 GbE (CX4)
    - 2-port 12 Gbps stacking
    - 1-port 24 Gbps stacking

- Switching fabric capacity of 288 Gbps and forwarding capacity of more than 131 Mpps

- Stack up to three S50Vs to deliver a scalable high capacity solution

- Supports Jumbo frames of up to 9,216 bytes; ideal for high-end server connectivity and network attached file servers

- Full complement of standards-based Layer 2 and Layer 3 features

- Built-in power redundancy

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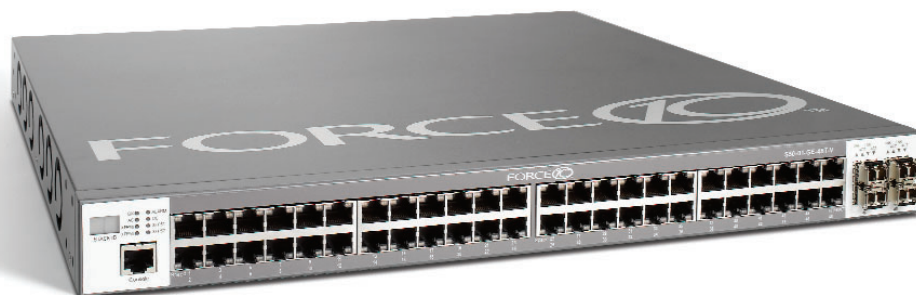
Specifications: S-Series S50V Power over Ethernet Switch

Ordering Information

Order Number	Description
S50-01-GE-48T-V	48-port 10/100/1000BaseT with four SFP ports, two modular slots and PoE
S50-01-10GE-2P	2-port 10 GbE XFP Module*
S50-01-10GE-2C	2-port 10 GbE CX4 Module*
S50-01-12G-2S	2-port 12 Gbps Stacking Module*
S50-01-24G-1S	1-port 24 Gbps Stacking Module*
S50-01-SSC-12G	60cm stacking cable for S50-01-12G-2S
S50-01-LSC-12G	4m stacking cable for S50-01-12G-2S
S50-01-SSC-24G	60cm stacking cable for S50-01-24G-1S
S50-01-LSC-24G	4m stacking cable for S50-01-24G-1S
S50-01-PSU-V	Redundant Power Supply Unit* Includes one cable
S50-01-SW-L3	Layer 3 Software Upgrade*

* Optional module for the S50V

Physical
48 line-rate ports 10/100/1000Base-T
4-ports SFP (shared)

Optional Modules:
  2 line-rate ports 10 Gigabit Ethernet XFP
  2 line-rate ports 10 Gigabit Ethernet CX4
  2 line-rate ports 12 Gigabit Stacking
  1 line-rate port 24 Gigabit Stacking

1 RJ-45 Console/management port with RS-232 signaling

Size: 17.32 w x 16.73 d x 1.73" h (440 x 425 x 44 mm)
Weight: 15.62 lbs (7.10 Kg)
Power Supply: Primary 100-240V AC, 50-60Hz, Autosensing Redundant -48V Terminal Type DC
Max. Thermal Output: 560 BTU/hr
Max. Current Draw per System: 100vAC/4A, 240vAC/2A
Max. Power Consumption: 470W
19" rack mountable
Standard 1U chassis height
Max. Operating Specifications:
  Temperature: 14° to 131°F (–10° to 55°C)
  Operating humidity: 10 to 90% (RH), non-condensing
Max. Non-operating Specifications:
  Storage Temperature: –40° to 158°F (–40° to 70°C)
  Storage humidity: 10 to 90% (RH), non-condensing
Reliability: MTBF 130,000 hours

Redundancy
Redundancy in stack connectivity (self healing ring)
Redundancy with up to 4 ports of 10 GbE uplinks
Redundancy with dual modular slots
Redundancy with GbE uplinks – using Link Aggregation
External Power Redundancy

Performance
Layer 2 MAC Addresses: 16K
Layer 3 Forwarding Entries: Up to 3K LPM table and 4K host entries
Switching Fabric Capacity: 288 Gbps
User Traffic Capacity: 176 Gbps (131 Mpps)
Jumbo Frame Support: 9216 bytes
Link Aggregation: 8 links per Link Aggregation Group & 48 groups per system
Stacking Capacity: Up to 96 Gbps
Queues per port: 8 Queues (8th queue reserved for stacking)
VLANs: 1024 VLANs with 4096 tag value support
Line-rate Layer 2 switching: all protocols, including IPv4 and IPv6
Line-rate Layer 3 routing: IPv4
LAG load balancing based on Layer 2, IPv4 or IPv6 headers

IEEE Compliance
802.3 10Base-T
802.3u Fast Ethernet (100Base-TX)
802.3ab 1000Base-T
802.3z Gigabit Ethernet
802.3ae 10 Gigabit Ethernet
802.3ak 10 Gigabit Ethernet CX4
802.3af Power over Ethernet
802.1p L2 Prioritization
802.1Q VLAN Tagging, Double VLAN Tagging
802.1s Multiple Spanning Tree Protocol
802.1w Rapid Spanning Tree Protocol
802.1AB Link Layer Discovery Protocol
802.3ad Link Aggregation with LACP
802.1D Bridging
802.3x Flow Control

RFC Compliance

OSPF:
1765	OSPF Database overflow	2154	OSPF MD5
		2328	OSPF v2
1850	OSPF MIB		

RIP:
1058	RIP v1	2082	RIP MD5
1724	RIP MIB	2453	RIP v2

IP Multicast:
1112	IGMP	3376	IGMPv3
2236	IGMPv1 and v2	Ietf-draft	IGMP-snooping v1 and v2
2362	PIM-SM		

General Routing and Switching Protocols:
768	UDP	1256	ICMP
783	TFTP	1519	CIDR
791	IP	1542	BootP (relay)
792	ICMP	1812	IP v4 routers
793	TCP	1866	HTML
826	ARP	2068	HTTP
854	Telnet	2030	SNTP
894	IP over Ethernet	2131	BootP/DHCP helper
903	Reverse ARP		
951	BootP	2236	IGMP v1 & v2
1027	Proxy ARP	2338	VRRP

Security:
1492	TACACS+	3128	Protection Against a Variant of the Tiny Fragment Attack
2865	RADIUS		

Port Security:
Ietf-draft SSH v2, SSL, Layer 2/3/4 ACLs, IP Broadcast Control

Quality of Service:
7 user queues per port
IEEE 802.1p
IP DiffServ support
Per port rate limiting
Per queue rate limiting
Strict Priority and Weighted Round Robin Scheduling

Management and SNMP:
RADIUS/TACACS+ Authentication
Secure Web-based Management
Industry familiar CLI: Scripting, Command completion, Context sensitive help

1157	SNMP v1
1212	Concise MIB Definition
1213	SNMP v2 (MIB-II)
1493	Bridge MIB
1643	Ethernet-like MIB
1901	Community based SNMPv2
1905	Protocol Operations for SNMPv2
1906	Transport Mappings for SNMPv2
1907	Management Information Base for SNMPv2
1908	Coexistence between SNMPv1 and SNMPv2
1724	RIP v2 MIB extension
1850	OSPF v2 MIB
2096	IP forwarding table MIB
2233	The Interfaces Group MIB using SMI v2
2570	SNMP v3
2665	Ethernet-like interfaces
2674	VLAN MIB
2787	VRRP MIB
2819	RMON (Groups 1,2,3,9)
2933	IGMP MIB
2934	PIM MIB for IPv4

Compliances

Safety
CUS 60950, 3rd edition (US NRTL through CSA)
CSA 60950, 3rd edition
CE Mark (EN 60950)
CB Report, all country deviations
EN 60825-1 Safety of Laser Products-Part 1: Equipment Classification Requirements and User's Guide
EN 60825-2 Safety of Laser Products-Part 2: Safety of Optical Fibre Communications Systems
21 CFR 1040.10 and 1040.11 FDA laser device requirements

EMC
USA: FCC CFR47 Part 15, Subpart J, Class A
Canada: ICES-003, Issue-2, Class A
Europe: EN55022 1998 (CISPR 22: 1997), Class A
Japan: VCCI V3/01.4 Class A

EN 61000-4-2 ESD
EN 61000-4-3 Radiated Immunity
EN 61000-4-4 EFT
EN 61000-4-5 Surge
EN 61000-4-6 Low Frequency Conducted Immunity
EN 300 386 V1.3.1 (2001-09) EMC for Network Equipment
EN 55024 1998

Telecoms
JATE (for Japan)

RoHS Compliance
All S50V components are EU RoHS compliant with the exception of lead, which is exempt from the directive for network equipment

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